

## CLAIMS

1. A method of representing an object appearing in a still or video image, by processing signals corresponding to the image, the method comprising deriving a plurality of numerical values representing features appearing on the outline of an object and applying a scaling or non-linear transformation to said values to arrive at a representation of the outline.

2. A method as claimed in claim 1 wherein the numerical values reflect points of inflection on the outline.

3. A method as claimed in claim 1 or claim 2 comprising deriving a curvature scale space representation of the outline by smoothing the outline in a plurality of stages using a smoothing parameter resulting in a plurality of outline curves, using values for feature points on each outline curve to derive curves characteristic of the original outline, and selecting the co-ordinates of peaks of said characteristic curves, wherein said transformation is applied to peak co-ordinate values.

4. A method as claimed in claim 3 wherein the feature points relate to the curvature of each outline curve.

5. A method as claimed in claim 4 wherein the feature points relate to the maxima and minima of the curvature of the outline curves.

6. A method of representing an object appearing in a still or video image, by processing signals corresponding to the image, the method comprising deriving a curvature scale space representation of the object outline, selecting co-ordinates for peaks in the curvature scale space, and applying a non-trivial transformation to peak co-ordinate values to arrive at a representation of the object outline.

7. A method as claimed in claim 6 wherein the transformation is applied to the co-ordinate values corresponding to a smoothing parameter in the CSS representation.

8. A method as claimed in claim 6 wherein the transformation is applied to the co-ordinate values

corresponding to an arc-length parameter along the outline.

9. A method as claimed in claim 6 wherein the transformation is a scaling transformation.

10. A method as claimed in claim 6 wherein the transformation is a non-linear transformation.

11. A method as claimed in any one of claims 1 to 5 or 10 wherein said transformation is in the form of  $z' = a \text{ pow}(z, b) + c$ , where  $a$ ,  $b$  and  $c$  are constants and  $\text{pow}(z, b)$  denotes  $z$  to the power  $b$ .

12. A method as claimed in claim 11 wherein  $b$  is greater than zero and less than 1.

13. A method as claimed in claim 11 wherein  $b$  is in the range of  $0.25 \leq b \leq 0.75$ .

14. A method as claimed in claim 13 wherein  $b = 0.5$ .

15. A method for searching for an object in a still or

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video image by processing signals corresponding to images, the method comprising inputting a query in the form of a two-dimensional outline, deriving a descriptor of said outline using a method as claimed in any one of claims 1 to 10, obtaining a descriptor of objects in stored images derived using a method as claimed in any one of claims 1 to 10 and comparing said query descriptor with each descriptor for a stored object, and selecting and displaying at least one result corresponding to an image containing an object for which the comparison indicates a degree of similarity between the query and said object.

16. An apparatus adapted to implement a method as claimed in any one of claims 1 to 15.

17. A computer program for implementing a method as claimed in any one of claims 1 to 15.

18. A computer system programmed to operate according to a method as claimed in any one of claims 1 to 15.

19. A computer-readable storage medium storing

computer-executable process steps for implementing a method as claimed in any one of claims 1 to 15.

20. A method of representing objects in still or video images substantially as hereinbefore described with reference to the accompanying drawings.

21. A method of searching for objects in still or video images substantially as hereinbefore described with reference to the accompanying drawings.

22. A computer system substantially as hereinbefore described with reference to the accompanying drawings.

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